

DEPARTMENT of ENVIRONMENTAL SERVICES  
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

**MORPHOMETRIC:**

Lake: GORHAM POND	Lake Area (ha): 41.52
Town: DUNBARTON	Maximum depth (m): 6.0
County: Merrimack	Mean depth (m): 2.9
River Basin: Merrimack	Volume (m <sup>3</sup> ): 1201000
Latitude: 43°04'16" N	Relative depth: 0.8
Longitude: 71°38'05" W	Shore configuration: 1.14
Elevation (ft): 425	Areal water load (m/yr): 8.82
Shore length (m): 2600	Flushing rate (yr <sup>-1</sup> ): 3.00
Watershed area (ha): 802.9	P retention coeff.: 0.57
% watershed ponded: 0.0	Lake type: natural

**BIOLOGICAL:**

		16 January 1995	27 June 1994
DOM. PHYTOPLANKTON (% TOTAL)	#1	ASTERIONELLA 40%	DINOBRYON 50%
	#2	SYNURA 35%	TABELLARIA 40%
	#3	PERIDINIUM 25%	
PHYTOPLANKTON ABUNDANCE (units/mL)			
CHLOROPHYLL-A (µg/L)			11.33
DOM. ZOOPLANKTON (% TOTAL)	#1	KERATELLA 43%	CODONELLA 32%
	#2	KELLICOTTIA 32%	KERATELLA 17%
	#3		NAUPLIUS LARVA 16%
ROTIFERS/LITER		102	93
MICROCRUSTACEA/LITER		15	37
ZOOPLANKTON ABUNDANCE (#/L)		117	196
VASCULAR PLANT ABUNDANCE			Common/Abun
SECCHI DISK TRANSPARENCY (m)			2.3
BOTTOM DISSOLVED OXYGEN (mg/L)		8.7	0.2
BACTERIA (E. coli, #/100 ml)	#1		12
	#2		2
	#3		

**SUMMER THERMAL STRATIFICATION:**

stratified

Depth of thermocline (m): 3.4  
Hypolimnion volume (m<sup>3</sup>): 8500  
Anoxic volume (m<sup>3</sup>): 111000

**CHEMICAL:**

Lake: GORHAM POND

Town: DUNBARTON

	16 January 1995		27 June 1994		
DEPTH (m)	2.0	4.0	2.0		4.0
pH (units)	6.0	6.0	6.6		6.2
A.N.C. (Alkalinity)	4.2	5.2	4.8		5.1
NITRATE NITROGEN	< 0.05	< 0.05	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN	0.33	0.29	0.37		0.35
TOTAL PHOSPHORUS	0.024	0.016	0.012		0.013
CONDUCTIVITY ( $\mu$ mhos/cm)	67.1	69.9	65.5		66.6
APPARENT COLOR (cpu)	43	44	55		55
MAGNESIUM			0.77		
CALCIUM			3.0		
SODIUM			7.8		
POTASSIUM			0.67		
CHLORIDE	14	15	13		13
SULFATE	4	4	4		4
TN : TP	14	18	31		27
CALCITE SATURATION INDEX			3.5		

All results in mg/L unless indicated otherwise

**TROPHIC CLASSIFICATION: 1994**

D.O. S.D. PLANT CHL TOTAL CLASS

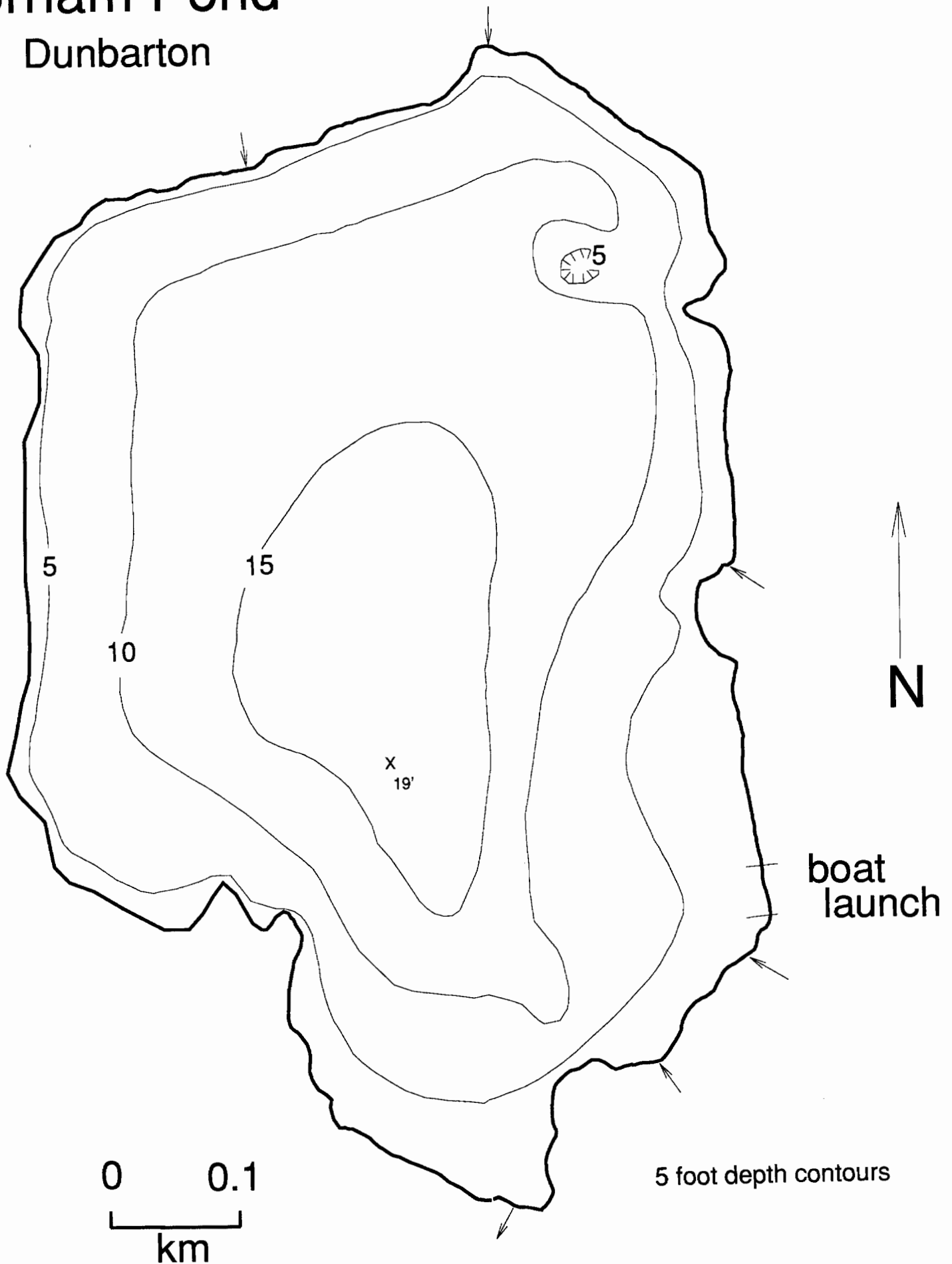
4	3	4	2	13	Eutro.
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**COMMENTS:**

1. This pond was previously surveyed and classified in 1980. It was rated mesotrophic in 1980. The major changes in water quality between the two dates were in algae and water clarity: the chlorophyll nearly tripled (4 to 11 mg/m<sup>3</sup>) and water clarity declined by a meter (3.3 to 2.3 m). More frequent sampling over time is needed to determine if this is a true trend or normal yearly variation.
2. This is a relatively shallow, tea-colored pond with very common plant growth along the shores and some wetland areas. Sodium and chloride levels indicate some drainage from salted roads or leaking subsurface disposal systems.
3. Boat launch site was steep but with good access to the ramp.

# Gorham Pond

Dunbarton

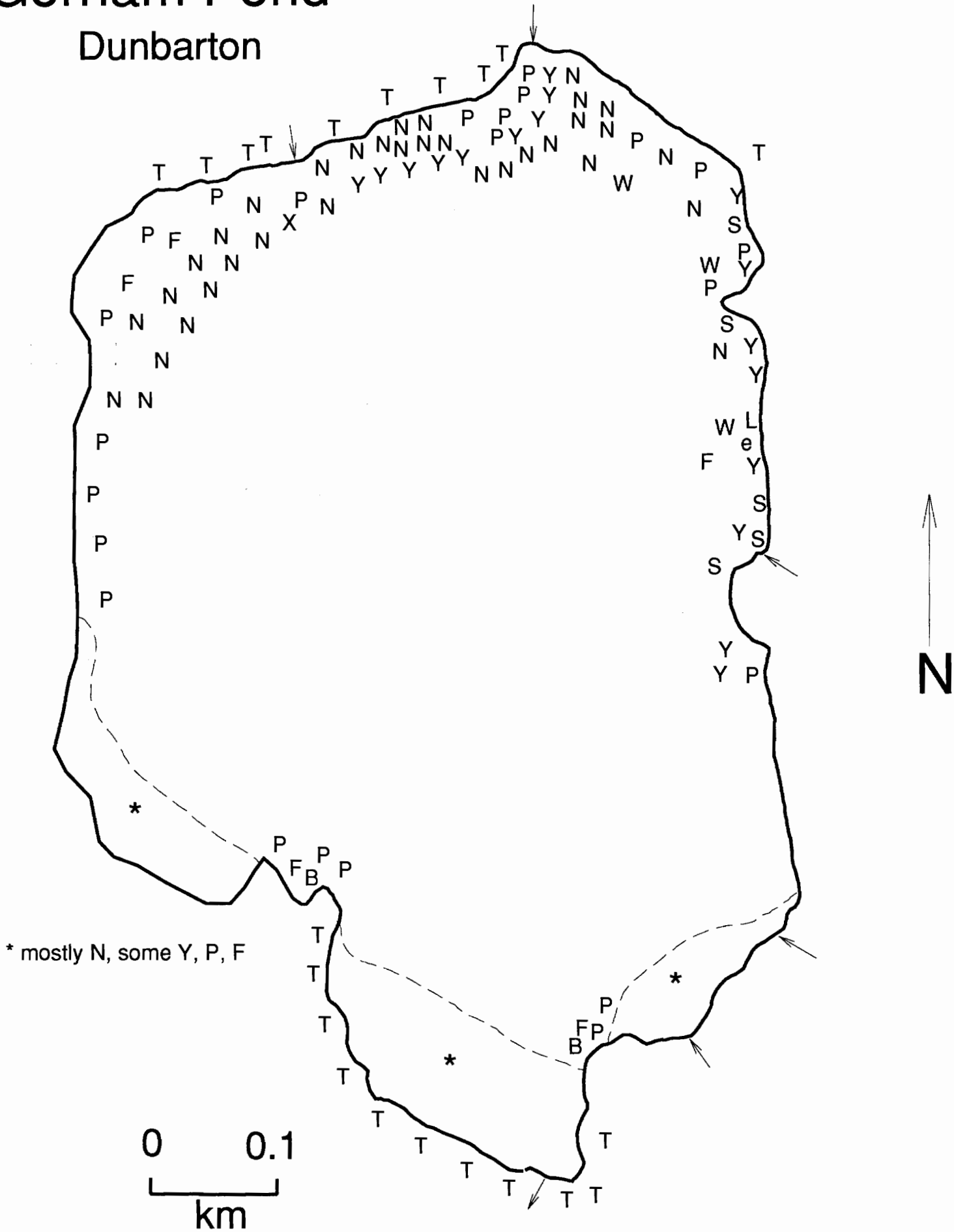


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# Gorham Pond

Dunbarton



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